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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/817,788 | 03/26/2001 | Darrell L. Sparks | 2303-1-015N | 7795 |

7590 05/14/2003

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| EXAMINER |
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AHMED, SHEEBA

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| ART UNIT | PAPER NUMBER |
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1773

DATE MAILED: 05/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/817,788

Applicant(s)

SPARKS ET AL.

Examiner

Sheeba Ahmed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 26-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 1-25 have been cancelled in the above-identified application. New claims 26-55 have been added.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 26-55 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

New presented independent claims 26 and 27 recite that the plastic product has "a non-porous matter finish" and that the discrete particles in the cap stock composition are "hard, non-elastomeric, crosslinked polymeric" particles. The original disclosure simply fails to disclose that the plastic product has a "non-porous matter finish" or that the particles are "hard" and "non-elastomeric". Any negative limitation or exclusionary proviso must have basis in the original disclosure. See *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff'd mem.*, 738 F.2d 453 (Fed. Cir. 1984). The mere absence of a positive recitation is not basis for an exclusion.

Claim Objections

3. Claim 30 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 30 is dependent on claim 27 and recites that "the capstock composition is bonded to both faces of the core" however this limitation is already recited in claim 27 which states that the capstock composition overlies and is "bonded to both top and bottom faces of the core layer". Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form.

Claim 31 recites "the first and second thermoplastic polymers comprises a methyl methacrylate methacrylate copolymer". The "phrase methyl methacrylate methacrylate copolymer" appears to be a typographical error. Appropriate action is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 26-47 and 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trabert et al. (US 5,318,737).

Trabert et al. disclose a plastic composite made by feedblock coextrusion of a molten acrylic capstock (***corresponding to the capstock composition layer of the claimed invention***) overlying and bonded to an underlying structural plastic ply

(corresponding to the core layer of the claimed invention) (Abstract). The thickness of the capstock can be 0.2 to 2.5 mm (*equivalent to 200 to 2500 microns*) and the thickness of the structural plastic ply can be 1.5 to 10mm (Column 1, lines 38-41). The acrylic capstock composition comprises (A) 40 to 88 wt.% of a copolymer of methyl methacrylate and a minor amount of a lower alkyl acrylate having a molecular weight of at least 125,000 Daltons and (B) 12 to 60 weight % of an acrylate-based impact modifier, such as one having a core-shell structure and composed of methyl methacrylate, in the form of discrete particles (Column 4, lines 35-68). The copolymer can comprise 88 to 99.9 wt.% of methyl methacrylate and 0.1 to 12 wt.% of the alkyl acrylate (Column 6, lines 19-22). Examples of the structural plastic ply include polyvinyl chloride, ABS and polycarbonate (Column 5, lines 29-35) and polyethylene, polypropylene, polymethyl methacrylates and polyethylene terephthalates (Column 9, lines 15-57). Fillers may be added to the acrylic composition and do not exceed 15 weight % of the capstock composition and include barium sulfate and calcium carbonate (Column 10, lines 44-63).

Trabert et al. do not specifically state that the acrylic capstock maybe applied to both sides of the underlying plastic layer and that the discrete particles in the second layer have a particle size of 1 to 60 microns. However, it would have been obvious to one having ordinary skill in the art to apply the acrylic capstock composition to both sides of the underlying plastic layer to impart improved properties to both sides. For example, Trabert et al. teach that their composite may be used in fencing (Column 10, lines 17-43) and in such a situation improved properties may be needed on both sides

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of the underlying plastic layer. Furthermore, it would have been obvious to one having ordinary skill in the art to optimize the size of the filler material given that large particle size filler materials results in low, i.e., matte or dull finishes (*as evidenced by Smith, US 3,714,107, who teaches that filler materials such as natural ground barium sulfate or calcium carbonate having a large particle size provide a surface with a dull finish; See Column 2, lines 35-45*). The Examiner takes the position that the plastic composite made by feedblock coextrusion of a molten acrylic capstock overlying and bonded to an underlying structural plastic ply, as disclosed by Trabert, must have a non-porous matter finish given that the chemical composition and the method of making the plastic composite as disclosed by Trabert et al. and the composite of the claimed invention are identical.

5. Claims 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trabert et al. (US 5,318,737) in view of Jacobs et al. (US 6,225,407 B1).

Trabert et al., as discussed above, do not specifically stat that the refractive indices of the methacrylate copolymer and the discrete methacrylate particles are in the range of 1.40 to 1.65 and that the refractive indices of the two components differ by 0.001 to 0.030. However, Jacobs et al. teach that core-shell modifiers having a refractive index of 1.52 to 1.55 are highly desirable to obtain very high transparency in a polymer blend. Hence, it would have been obvious to replace the impact modifier particles disclosed by Trabert et al. with a core-shell modifier having a refractive index of 1.52 to 1.55 given that Jacobs et al. teach that the use of impact modifiers having a

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refractive index of 1.52 to 1.55 are highly desirable when a transparent resin blend is desired. Furthermore, the Examiner takes the position that the refractive index of the methacrylate copolymer must inherently be in the range of 1.40 to 1.65 given that the copolymer as disclosed by Trabert et al. and that of the claimed invention are identical.

Response to Arguments

6. Applicant's arguments filed on February 21, 2002 (Paper No. 6) have been fully considered but they are not persuasive. Applicants traverse the rejections based on Trabert et al. (US 5,318,737) and submit that Trabert does not pertain to a plastic sheet product having a matte finish and that it would have not been obvious to one having ordinary skill in the art to modify the size of the filler in the belief that larger particles size would result in a low or matte finish given that, the Applicants allege, the standard technique for achieving a matte finish is through embossing.

First, the Examiner would like to point out that the newly presented claims do not recite that the composite has a matte finish and hence the limitations on which the Applicants are relying are not stated in the claims. It is the claims that define the claimed invention and it is the claims, not the Specification, that are unpatentable.

Second, in response to the Applicants argument that it would have not been obvious to one having ordinary skill in the art to modify the size of the filler in the belief that larger particles size would result in a low or matte finish the Examiner would like to point out that Smith, US 3,714,107, specifically teaches that filler materials such as

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natural ground barium sulfate or calcium carbonate having a large particle size provide a surface with a dull finish; See Column 2, lines 35-45).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

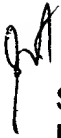
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (703)305-0594. The examiner can normally be reached on Mondays and Thursdays from 8am to 6pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703)308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-5408 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)306-5665.



Sheeba Ahmed
May 12, 2003


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700